

## I. RELEVANT REFERENCES

43/5,K/11 (Item 11 from file: 350)  
 DIALOG(R)File 350: Derwent WPIX  
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0011082384 *Drawing available*  
 WPI Acc no: 2002-017782/200202  
 XRPX Acc No: N2002-014163

**Montage for an electronic market that displays quotes for market participants to buy or sell securities with control buttons placed close to the montage**

Patent Assignee: NASDAQ STOCK MARKET INC (NASD-N)

Inventor: BOYCE T; KOKIS C; LIGAMMARI A; MARTYN P; NICHE P; PETERSON K; WHEELLOCK R; ZAREMBA P; WHEELLOCK R

Patent Family ( 3 patents, 94 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2001088808	A1	20011122	WO 2001US15289	A	20010511	200202	B
AU 200161456	A	20011126	AU 200161456	A	20010511	200222	E
US 7246092	B1	20070717	US 2000569524	A	20000512	200748	E

### Alerting Abstract WO A1

NOVELTY - A negotiation montage (152) in a dynamic quote window (150) displays **customer** quotes in the system for market **participants** who can post quotes. The window also includes control buttons (154a-154c,156a-156c) between the quote montage and the upper portion of the window and the control buttons can be color coded and can each display a price level, while the **aggregate** number of shares at this price level is displayed next to the corresponding button.

DESCRIPTION - INDEPENDENT CLAIMS are included for a **graphical user interface** and for a method of submitting an **order** in an **electronic trading** system.

USE - Displaying **orders** and quotes in an **electronic** market.

ADVANTAGE - Displaying quotes at the current price conditions.

DESCRIPTION OF DRAWINGS - The drawing shows a quote montage

152 Quote montage

154a-154c,156a-156c Control buttons

**Montage for an electronic market that displays quotes for market participants to buy or sell securities with control buttons placed close to the montage...NOVELTY -**

A negotiation montage (152) in a dynamic quote window (150) displays **customer** quotes in the system for market **participants** who can post quotes. The window also includes control buttons (154a-154c, 156a-156c) between the quote montage and the upper portion of the window and the control buttons can be color coded and can each display a price level, while the **aggregate** number of shares at this price level is displayed next to the corresponding button. DESCRIPTION - INDEPENDENT CLAIMS are included for a **graphical user interface** and for a method of submitting an **order** in an **electronic trading** system... ..USE - Displaying **orders** and quotes in an **electronic** market ...

**Abstracts:**A dynamic quote window for a **securities** system includes a quote montage that displays quotes from market **participants** to buy or sell a security and a **plurality** of controls disposed proximate to the quote montage, each of the controls displaying a price level and **aggregated** quote size at the price level for the security. The **aggregate** controls display **aggregated** quotes at various price levels that represents publically displayed, available liquidity. Market **participants** can see the depth of the quotes at the inside. Also described in a **multi-order** window which when populated and **transmitted** can generate **orders** to capture all shares available at the price corresponding to the **aggregate** interest control depressed and better... .. A dynamic quote window (see Fig. 7) for a **securities** system includes a quote montage that displays quotes (154a, 156a) from market **participants** to buy or sell a security and a **plurality** of controls disposed proximate to the quote montage, each of the controls displaying a security. The **aggregate** controls display **aggregated** quotes at various price levels that represents publically displayed, available liquidity. Market **participants** can see the depth of the quotes at the inside. Also described in a **multi-order** window which when populated and **transmitted** can generate **orders** to capture all shares available at the price corresponding to the **aggregate** interest control depressed... .. >**Claims:**What is claimed is:1. A computer program product, residing on a computer readable medium for executing instructions on a processor, the computer program product being operable to cause the processor to generate a graphical user interface for an electronic trading system, the graphical user interface comprising: a dynamic quote montage that that is rendered on an electronic display device; the dynamic quote montage comprising:a negotiation montage that lists quotes at various price levels for a product, the quotes being posted from a plurality of market participants; and a plurality of controls that display a plurality of price levels for quotes for the product at current pricing conditions for the product with each of the controls displaying a value corresponding an aggregated number of shares at one of the plurality of price levels with the value of the number of shares being juxtaposed the price level, the plurality of controls being color coded wherein selection of one of the controls launches a market order entry window.

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43/5,K/13 (Item 13 from file: 350)  
DIALOG(R)File 350: Derwent WPIX  
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XRPX Acc No: N2001-489774

**Electronic display method for securities trading market data involves generating scales for shared vertical price axis and horizontal time and trade size axis**

Patent Assignee: E-XCHANGE ADVANTAGE INC (EXCH-N); PIPELINE

FINANCIAL GROUP INC (PIPE-N)

Inventor: FEDERSPIEL F J; WAELEBROECK H

Patent Family ( 3 patents, 93 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2001075733	A1	20011011	WO 2001US10325	A	20010329	200175	B
AU 200151152	A	20011015	AU 200151152	A	20010329	200209	E
US 7308428	B1	20071211	US 2000539120	A	20000330	200781	E

#### **Alerting Abstract WO A1**

NOVELTY - Method consists in receiving a **user computer** information view request over the Internet, receiving data describing the liquidity conditions in the **securities trading** markets, storing the data and calculating a market impact analysis as a function of **trade size** and **displaying** it in **graphical** form. Intra-day **trading** activity is received and stored to calculate the display and transmit it to the **user** with real-time updating.

DESCRIPTION - There is an INDEPENDENT CLAIM for a **computer program**

USE - Method is for displaying the status of **electronic securities** markets over the Internet.

ADVANTAGE - Method integrates analysis of intra-day **trading** activity by classes of market **participant** and projected market impact as a function of **trade size**.

DESCRIPTION OF DRAWINGS - The figure shows a schematic of the method.

**Electronic display method for securities trading market data involves generating scales for shared vertical price axis and horizontal time and trade size axis**

**Alerting Abstract ...NOVELTY** - Method consists in receiving a **user computer** information view request over the Internet, receiving data describing the liquidity conditions in the **securities trading** markets, storing the data and calculating a market impact analysis as a function of **trade size** and **displaying** it in **graphical** form. Intra-day **trading** activity is received and stored to calculate the display and transmit it to the **user** with real-time updating. **DESCRIPTION** - There is an INDEPENDENT CLAIM for a **computer program** ...**USE** - Method is for displaying the status of **electronic securities** markets over the Internet...**ADVANTAGE** - Method integrates analysis of intra-day **trading** activity by classes of market **participant** and projected market impact as a function of **trade size** **No. Original Abstracts:**The subject invention overcomes the limitations of known market data displays by producing a **graphical market display** that integrates analysis of **both** 1) intra-day **trading** activity by classes of market **participant**, and 2)

projected market impact as a function of **trade** size give the present set of **executable orders** in an **electronic securities trade execution** network. In a **preferred** embodiment, the display is used as the **graphic user interface (GUI)** of an ECN. In alternate **preferred** embodiments, the display is offered by a market data analysis service that accesses information from one or more ECNs, exchanges, or stock market. In another alternate embodiment, the display is created by **software** on a **user computer** from liquidity information already on that **user computer**. ... .. The subject invention overcomes the limitations of known market data displays by producing a **graphical market display** that integrates analysis of **both** 1) intra-day **trading** activity by classes of a market **participant** (30), and 2) projected market impact as a function of **trade** size given the present set of **executable orders** in an **electronic securities trade execution** network (20). In a **preferred** embodiment, the display is used as the **graphic user interface (GUI)** of an ECN (10). In alternate **preferred** embodiments, the display is offered by a market data analysis service that accesses information from one or more ECNs, exchanges, or stock market. In another alternate embodiment, the display is created by **software** on a **user computer** from liquidity information already on that **user computer**.

... ..What is claimed is:1. A method of displaying data regarding one or more **electronic securities-trading** markets to a **user computer**, comprising: (a) **electronically** receiving over a **computer** network a request from the **user computer** to view information on a security or **group of securities traded** on one or more **electronic securities-trading** markets;(b) **electronically** receiving over a **computer** network data describing the liquidity conditions in said **electronic securities-trading** markets;(c) **electronically** storing said received data describing the liquidity conditions in said **electronic securities-trading** markets;(d) calculating in real time a market impact analysis display for said security or **group of securities**, based on said received data describing said liquidity conditions in said **securities-trading** markets that displays projected market impact as a function of **trade** size in **two or more** piecewise-continuous curves comprising at least one curve that is a function of **trade** size for **user bids trading** with a book of executable offers and at least one curve that is a function of **trade** size for **user offers trading** with a book of executable bids; and(e) transmitting said market impact analysis display or data sufficient to generate said market impact analysis display to said **user computer**.

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43/5,K/15 (Item 15 from file: 350)  
DIALOG(R)File 350: Derwent WPIX  
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0010840751 *Drawing available*  
WPI Acc no: 2001-458912/200150  
XRPX Acc No: N2001-340235

**Data processing system for computer implemented financial charting system, determines intra-market element processed for performing graphical display as a**

### chart with bars

Patent Assignee: GOHEDGE ASSET MANAGEMENT LTD (GOHE-N);  
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Inventor: CHONG K F R; LI V C P; CHONG R

Patent Family ( 5 patents, 30 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1109122	A2	20010620	EP 2000310672	A	20001201	200150	B
CN 1308301	A	20010815	CN 2000133198	A	20001025	200174	E
KR 2001067403	A	20010712	KR 200077805	A	20001218	200202	E
TW 494329	A	20020711	TW 2000108177	A	20000427	200332	NCE
US 7043449	B1	20060509	US 1999465336	A	19991217	200632	E

### Alerting Abstract EP A2

NOVELTY - Data representing high and low prices traded by market during predetermined time interval is calculated by analyzing trading activity. Trading activity data is analyzed to determine intra-market element indicating price range during high and low trading activities or price interval during highest trading activity. Intra-market data element is processed for performing graphical display as chart with bars.

DESCRIPTION - An INDEPENDENT CLAIM is also included for method of analyzing price activities.

USE - Data processing system for computer implemented financial charting system for charting movements of financial market traded instruments, used by traders and analysts for predicting future price movements.

ADVANTAGE - Quantifies and overlays intra-market information on a chart and eliminates the need for observing and memorizing intra-market information by retrieving intra-market information instantly. Facilitates analysis of time series behavior as well as their relationships with usual OHLC. Enables to form new trading insights easily and to develop new technical analysis theories. Provides a new chart which resembles existing chart, so that traders who are used to wear the latter will not find new chart unfamiliar but rather more informative.

DESCRIPTION OF DRAWINGS - The figure shows the appearance of bar in the graphical chart.

**Abstracts:** A system for augmenting a conventional price-time chart used for technical analysis of securities price movements. A data processing system is **provided to** analyse the price activities of an instrument or commodity **traded** in a market. **The** system includes means for analysing **trading** activity and for **calculating**, for discrete pre-determined time intervals, data representing a respective high price and low price **traded** by the market **during** the associated time interval. There is also provided means for processing the data for **graphical display** as a **chart with bars representing high and low prices** for each time interval. **The** system is characterised by means for analysing the

**trading** activity data to **determine** for each discrete time interval data representing at least one intra-market element, the intra market element being a price range with substantially high **trading** activities during the **associated** time interval, a price range with substantially low **trading** activities during the **associated** time interval, or a price interval with the highest **trading** activities. There are **also** provided means for processing the data representing the intra market elements for **display** in **graphical** form **associated** with the respective bars for the time intervals... ... A method and apparatus for augmenting the conventional price-time chart used for technical analysis of **securities** price movements. In a **preferred** embodiment, the method **takes** a conventional Bar Chart **or** Japanese Candlestick Chart with a definite timeframe and then for each bar on the chart; it statistically quantifies the volume and time distribution throughout the range of the bar into discrete elements, using price and volume data within the bar interval from a sub-timeframe. The discrete elements are then **graphically** overlaid on the bar in a way which **preserves** its original appearance as close as possible. The apparatus is an application **software** which implements the method by displaying the conventional **price-time** chart, calculating the relevant elements and overlaying the **values** on the chart bars, either in a static **or** real-time market setting. **Claims:**A **data processing system** for analysing the price activities of an instrument or commodity **traded** in a market, comprising means for analysing **trading** activity **and** for calculating, for discrete predetermined time intervals, data representing a respective high price and low price **traded** by the market during the associated time interval, and means for processing the **data** for **graphical display as a chart** with bars representing high and low prices for each time interval, characterised in that means are also provided for analysing the **trading** activity **data** to determine for each discrete time interval data representing at least one intra-market element, the intra-market element being a price range with substantially high **trading** activities **during** the associated time interval, a price range with substantially low **trading** activities **during** the associated time interval, or a price interval with the highest **trading** activities, **and** in that means are provided for processing the **data** representing the intra-market elements for **display** in **graphical** form **associated** with the respective bars for the time intervals... ... The invention claimed is:1. A **computerized** method for monitoring for a **user** the price activities of a financial instrument **traded** in a **financial** instrument **traded** in a financial market in a given timeframe, comprising the **steps** of: (a) plotting a **plurality** of bars on a price-time chart by a processor wherein said **price-time** chart is a two dimensional chart, with the Y-coordinate representing price and X-coordinate representing time, with the X-axis divided into a predetermined **plurality** of discrete intervals, wherein each interval has a bar of the **plurality** of bars associated with it, each interval represents an amount of time **equal** to that of the given timeframe, each bar **indicates** at least a high price and a low price **traded** by the **market** during the associated time interval of the bar and **each** bar is vertically displayed on said chart;(b) employing with the processor a bar from said chart and building a frequency distribution with the processor wherein an interval between a high and low price of said bar is divided into a **plurality** of discrete predetermined price intervals and said frequency distribution identifies the amount of **trading** activities taken place in each of the said discrete price intervals within the period of time represented by said bar;(c) deriving with the processor a set of discrete intra-market elements from said frequency distribution, said set of discrete intra-market elements comprising an active range defined by a continuous price

range containing substantially high **trading** activities determined by a first statistical range extending from a statistical center calculated from said frequency **distribution**, a modal point defined by the highest **trading** activities for a price in the time interval, and an extreme tail defined by a continuous **price** range containing substantially low **trading** activities determined by a **second** statistical range beyond said first range;(d) representing on a **computer display** device each element of said set of intra-market elements by a first geometric figure, and overlaying said first geometric figure onto said bar; and(e) displaying on a **computer display** device the overlaid price-time chart to the **user**.

43/5,K/37 (Item 37 from file: 350)  
 DIALOG(R)File 350: Derwent WPIX  
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0007149624 *Drawing available*  
 WPI Acc no: 1995-185475/199524  
 Related WPI Acc No: 1997-077157; 1998-398561  
 XRPX Acc No: N1995-145259

**Computerised data retrieval system for commodity and stock price information database - uses windows to create search language queries, which are echoed to display in near-natural language, and includes database search engine, market knowledge, triple-witching hours and option contract expiration dates**  
 Patent Assignee: LOGICAL INFORMATION MACHINE (LOGI-N)  
 Inventor: CHIMENTI D S; GAMBOA R A; KOLTON A D

Patent Family ( 1 patents, 1 countries )							
Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 5414838	A	19950509	US 1991713359	A	19910611	199524	B
			US 1992897622	A	19920611		

### Alerting Abstract US A

The data retrieval system has a windowing system which aids a **user** in creating and revising formal search language queries, and a database search engine responsive to the queries. Results are generated and formatted in **both** textual and **graphic** reports. A formal search language query is echoed to a display in a near-natural language format for easy comprehension by the **user** as the query is constructed using the windowing system. The system has facilities for including domain knowledge in a query, such as market knowledge of calendar events, national holidays, **triple** -witching hours, and option contract expiration dates. The system has additional facilities that permit a **user** to include more fundamental domain knowledge, such as dates of political **elections**, date of issuance and **value** of company earning reports, and the **consumer** price index. The near-

natural language format of the query may be created and revised either through the windowing system or with a text editor.

ADVANTAGE - Permits **traders** and portfolio managers to pose sophisticated ad hoc queries against database contg. historical stock, commodity and economic data, so that research can be performed quickly to increase **trading** profits.

**Computerised data retrieval system for commodity and stock price information database... ..uses windows to create search language queries, which are echoed to display in near-natural language, and includes database search engine, market knowledge, triple-witching hours and option contract expiration dates Abstract**

...The data retrieval system has a windowing system which aids a **user** in creating and revising formal search language queries, and a database search engine responsive to the queries. Results are generated and formatted in **both** textual and **graphic** reports. A formal search language query is echoed to a display in a near-natural language format for easy comprehension by the **user** as the query is constructed using the windowing system... ..The system has facilities for including domain knowledge in a query, such as market knowledge of calendar events, national holidays, **triple-witching** hours, and option contract expiration dates. The system has additional facilities that permit a **user** to include more fundamental domain knowledge, such as dates of political **elections**, date of issuance and **value** of company earning reports, and the **consumer** price index. The near-natural language format of the query may be created and revised either through the windowing system or with a text editor... ..ADVANTAGE - Permits **traders** and portfolio managers to pose sophisticated ad hoc queries against database contg. historical stock, commodity and economic data, so that research can be performed quickly to increase **trading** profits. **Abstracts:**A computerized data retrieval system, **especially** for commodity price information databases, having a windowing system which aids a **user** in creating and **revising** formal search language queries, a database searching engine responsive to such queries, means to generate and format results in **both** textual and **graphic** reports, and a **capacity** for echoing a formal search language query to a display in a near-natural language format for easy comprehension by the **user** as the query is constructed using the windowing system. The system has facilities for including domain knowledge in a query, such as market knowledge of calendar events, national holidays, **triple-witching** hours, and **option** contract expiration dates. The system has additional facilities that permit a **user** to include more **fundamental** domain knowledge, such as dates of political **elections**, date of issuance and **value** of company earning **reports**, the **consumer** price index, and so on. The near-natural language format of the query may be created and revised either through the windowing system or with a text editor. **Claims:**A system for extracting historical market information identifying recurring trends relating to **securities** traded in a market, the system comprising: a **computer** having a digital storage medium; a **computer** data **base** operable with said **computer** for **organizing** historical market information according to **attributes**; means **for** providing a first menu of **attributes** for **presentation** in a report; means for providing a **second** menu **for** **selecting** a **condition** defining temporal fluctuations of the **attributes**; means **for** **selecting** one or more **attributes** from said first menu providing a SHOW ATTRIBUTE

query **construction**; means for **selecting** one or more conditions from said **second** menu **providing** a WHEN CONDITION query construction; means for limiting said WHEN CONDITION **selecting** means to a time interval during which said conditions are satisfied for a predetermined number of occurrences; means for retrieving, according to said **selected** SHOW ATTRIBUTE-WHEN CONDITION query construction and said limiting means, the **selected attributes of the computer data base** for each point in history corresponding to the satisfaction of the **selected** conditions; **and** means for generating, for each point in history according to the satisfaction of the **selected** conditions, **a** report presentation for each of the retrieved **attributes**, whereby **a plurality of report** presentations is generated, one for each point in history satisfying the **selected** conditions, **allowing** comparison among said **plurality of report** presentations for identifying recurring trends relating to the commodities **traded in the market**.

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47/5K/22 (Item 22 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
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00822323

## **VIRTUAL TRADING FLOOR SYSTEM AND METHOD** **SYSTEME ET PROCEDE VIRTUELS DE MARCHE BOURSIER**

### **Patent Applicant/Patent Assignee:**

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### **Legal Representative:**

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	Country	Number	Kind	Date
Patent	WO	200155968	A2-A3	20010802
Application	WO	2001US3066		20010131

	Country	Number	Kind	Date
Priorities	US	2000179296		20000131

## [EQUIVALENT OF US 2002/0133449]

### English Abstract:

An interactive decision support system for monitoring and responding to system and market events displayed within a two dimensional view of a **three dimensional** system model.

### SUMMARY OF THE INVENTION

The interactive decision support system, or **three dimensional trading** floor system, consolidates the data streams of NYSE(k) operational activity into one interactive **three-dimensional** visualization system to allow a user to monitor and I/O respond to systems and stock-related events. The interactive decision support system is a... or 5 peripheral activities can be recognized and understood at-a-glance and in real time as they occur. Real time data is integrated from **several** sources to create a visual display that uses **three dimensions**, animation, colors and geometric shapes to identify business and systems events, thereby creating an ... practices, and monitor specialist operations.

Accordingly, a method is provided for displaying data representing the operation of an exchange which includes maintaining data representing a **three dimensional** model of the exchange's **trading** area and receiving and maintaining in a computer memory data representing exchange operations. The method generates a two dimensional display representing a selected aspect view of the **three dimensional** model and including perspective views of some of the surfaces of the model. The method further generates alphanumeric images of selected data representing exchange operations and maps these images onto surfaces of the perspective views.

The method further provides changing the selected aspect view of the I/O **three dimensional** model upon a new view being **selected** by a **user**. The method generates an additional two dimensional display representing the changed aspect view, and maps the alphanumeric images onto selected ones of the perspective views... portions of the two dimensional display as being 1/5 selectable and that these selectable display portions are operable so that, when these portions are **selected** by a **user**, further data correlated to the **selectable** display portions is displayed. The method also provides that some of the selectable display portions comprise the perspective aspect views and where further data is... showing a drill down detailed view of a virtual trading post.

Data in the texture map memory I/O is rendered into a **three-dimensional** model by a scene **graph** processor 1/1/2 which maps each texture and associated data onto a

predetermined grid or grids of a pre-programmed wireframe model of the... ..a keyboard or mouse device, informs the scene graph processor II 2 of the viewpoint from which to display the rendered model of the virtual **trading** floor.

Accordingly, the scene **graph** processor II 2 culls and draws an image of the virtual trading floor from the perspective of the viewpoint, which image can be viewed on a two-dimensional view of a **three dimensional** model of the exchange **trading** floor and selected detailed views of the **three dimensional** model for display of selected data or information in **graphic** or tabular form. Alternatively, the display monitor 107 can be a single display monitor used to view the virtual trading floor.

A control station provides a **user** input 1 14 to **select** an aspect view and control the images displayed on the display 107. The control station can be a client computer at which the user input... ..multiple monitor displays, the control station can direct multiple views within a single monitor display 107. The views of an element to be provided upon **selection** by a **user** can be **customized** to fit the particular interests of the individual **user**. Similarly, navigation 1 5 through the virtual trading floor is provided by the control station, as well as interaction with elements of the trading floor.

When a **user selects** a particular view of the virtual trading floor, coordinate information representing the position', orientation and zoom level for that view is communicated from the user... ..request by mapping the appropriate viewpoint information, as mentioned above, and returns to the display 107 the rendered image. It is generally preferable that the **three dimensional** processing of the image be performed by the data processor 102 since the computations required for rendering the image generally require sophisticated and substantial processing and therefore can be **preferable** to center such processing power at the **data processor** or **server** side such as the Silicon Graphics super-computer which can be tailored to this task. In other instances it can also be **preferable** that the scene rendering be performed on the **server** side where the rendering requires sophisticated processing or when the same scene information can be distributed to a number of client machines located at the 102 can perform data mining and anticipate **client** requests for analysis of exceptional events. One purpose of **selective** processing is to optimize the resources of the system on which the virtual trading floor is implemented. It can be appreciated that specific choices of... ..display can be maintained on the client side at the location of the display 107 and user input 1 14. Information which does not require **three dimensional** rendering, such as the alphanumeric information that can be provided in the dashboard, can be communicated directly as data to a client side computer at... ..power of the server for specialized tasks. It can be appreciated that other factors can be considered such as the degree to which the individual **client** machine requires **customized** display of information.

The virtual **trading** post 202 includes **multiple** display surfaces 405 on which data, such as the **trading** symbol of each security traded at the post and the last transaction price, can be displayed. Referring to Figure 4, it can be seen that... ..display panels 404 have several display surfaces 405 for security labels 403) corresponding to a security traded at

a corresponding trading post on the actual **trading** floor of the exchange. The display panels 404 in the **three dimensional** model are arranged vertically around the periphery of each column of the virtual trading post

t:1

202, preferably arranged in alphabetical or other logical... ..or industry sub-group, country or geographic area or other event, such as a news headline. Detailed information concerning the alert is accessible to the **user** by **selecting** the panel to obtain a drill down view of detailed information.

An index container 309 can be provided for graphically displaying market index statistics in real time. The index ... ..index container 3 ) 09 which can track index information, such as volume or price, proceed from left to right. The index container 309 can be **selected** for a drill down view to give a **user** the ability to **choose** the indexes to be monitored, **select** the speed of the tracking, change the period of tracking, change the viewpoint, lift index slices and retrieve comparison devices among other things. The user... ..get a better view of a single index. Current statistics, such as volume or price, can be displayed numerically inside the leading edge of the **graph** line.

A **group** container 308 can be provided for **graphically displaying** statistics for a **group** of stocks or other **traded** items in real time. A **group** can include items such as stocks in alert condition, indexes, high **profile** stocks with news, user defined stocks, or stocks within a particular market sector (i.e., industrial), region (i.e., Europe) or country. Statistics for each... ..volume, net price change, net percentage change, spread, order velocity, order queues, and trade reports. As with the index containers, a detailed view of the **group** container can be had by selecting the **group** container and drilling down. In addition, a drawer of **characteristics** for an individual stock or a slice of **characteristics** for a **group** of stocks can be lifted out of the **group** container for easier viewing.

47/5K/42 (Item 42 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
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00758807

## **STOCK PURCHASE INDICES**

### **INDICES D'ACHAT DES TITRES BOURSIERS**

#### **Patent Applicant/Patent Assignee:**

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**Legal Representative:**

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	Country	Number	Kind	Date
Patent	WO	200072206	A2	20001130
Application	WO	2000US13407		20000517
Priorities	US	99135143		19990520
	US	99414781		19991008

## **[ EQUIVALENT OF US 6910383 ]**

In step 212, the **user** has the option of **customizing** the output report. Such options include, but are not limited to, filtering the data to allow the **user** to **select** the results based on business sector, exchange, period, capitalization, country, and different customer investment profile segments; applying alerts for email delivery when the alert **criteria** is satisfied; and providing **graphs** of other stock indices for comparison with the stock purchase indices of the present invention.

Such options include, but are not limited to, viewing the data in conjunction with other indices; filtering the data to allow the **user** to **select** the results based on business sector, exchange, period, capitalization, country, and different customer investment profile segments; and setting alerts that, when triggered, provide automatic email... ..data 3504 is used to customize both stock purchase index reports and stock purchase ranking reports. Filter controls data 3504 comprises three main fields.

Filter selections field 3 )706 is comprised of fifteen additional field&. Filter selections field 3706 comprises a stock selection field 3708, a series The last main field of filter controls data 3504 is filter selections field 3706. Filter **selections** field 3706 represents the various filters available to **user** 3702 to **customize** his or her desired stock purchase index report and/or ranking report.

Stock **selection** 3 )708 represents a variety of options provided to **user** 3702 to filter the types of stocks comprised in the stock purchase index report provided.

The various options include the exchange 3606 the stock is traded on and stock sector 3608. In addition, stock **selection** 3708 includes **customer** segment 3756.

**Customer** segment 3756 represents **multiple groups** of the **trading** community, where each **group** may be divided into **multiple** subgroups.

Base smoothing period length 3714 allows **user** 3702 to **select** different smoothing period lengths. Base smoothing period lengths 3714 may include 5, 9, and 21. Period field 604 comprises periods of either 1, 5, 9... ..period averages would be averaged together to create the daily 5 period, as will be described below in detail. An exemplary GUI screen for allowing **user** 3702 to **customize** smoothing period lengths 3714 is shown in FIG. 19 and is described in detail below.

Comparison smoothing period length 3716 allows **user** 3702 to **select** different smoothing period lengths for comparison with base smoothing period length 3714. An exemplary GUI screen for allowing **user** 3702 to **customize** comparison smoothing period length 3716 is shown in FIG. 20.

Length of time for change measurement 3720 represents the length of time covered by the change measurements for base smoothing period length 3714 and comparison smoothing period length 3716. An exemplary GUI screen for allowing **user** 3702 to **customize** length of time for change measurement 3720 is shown in FIG. 22 and is described in detail below.

Number of stocks to list 3722 represents the number of stocks provided in the stock purchase ranking lists of the present invention. An exemplary GUI screen for allowing **user** 3702 to **customize** number of stocks to list 3722 is shown in FIG. 23 and is described in detail below.

First stock listing **selection** controls 3724 allow **user** 3702 to **customize** a first stock listing of a stock purchase ranking list. Here, listing selection 3736 (buys or sells), period length 3738 (1, 5, 9, or 21), series type 3740 (daily or weekly), and end date 3742 are **customized** by **user** 3702. An exemplary GUI screen for allowing **user** 3702 to **customize** first stock listing **selection** controls 3724 are shown and described with reference to FIG. 24.

Second stock listing **selection** controls 3726 allow **user** 3702 to **customize** a second stock listing of a stock purchase ranking report. Here, listing selection 3744 (buys or sells), period length 3746 (1, 5, 9, or 21), series type 3748 (daily or weekly), and end date 3750 are customized by **user** 3702. An exemplary GUI screen for allowing **user** 3702 to **customize** second stock listing **selection** controls 3726 are shown and described with reference to FIG. 25.

First stock ranking **selection** criteria 3728 allows **user** 3702 to **customize** the first stock listing according to various stock purchase index parameters.

Second stock ranking **selection** criteria 3730 allows **user** 3702 to **customize** the second

stock listing according to various stock purchase index parameters. Such stock purchase index parameters may include, but are not limited to, percent buy simple rank, percent sell simple rank, net percent buy, net percent weighted buy, and so forth. Exemplary GUI screens for first and **second** stock ranking selection **criteria** 3 728 and 3 7' ) 0 are shown in FIGs. 26 and 27, respectively.

Comparative index **selection** 3732 allows **user** 3702 to add a comparison indices graph for comparing buy simple index 626 to a comparative index such as the NASDAQ or the U.S. ... published by the University of Michigan. Exemplary GUI screens for comparative index selection 3732 are shown in FIGs. 29A and 29B below.

Series and smoothing **selections** for comparative index 3734 allows **user** 3 702 to alter the displayed comparative index by allowing the selection of weekly or daily series and moving average smoothing periods for the ...s shown in FIG. 3 0 below.

As previously stated, a **user** logging onto web site 120 has the ability to **customize** the output. Customization of the output is provided via the use of filters and alerts. Filters and alerts are enabled when a **user selects** a desired **parameter** to be changed on the **graphical display**. The **user can select** the desired **parameter** to be changed by positioning the cursor on the parameter and right clicking on that parameter using a mouse. The location or spot in which... ..control selection window. Control selection window 1806 provides a list of all of the desired ending dates 3718 that can be **selected** by the **user**. The **user** can now **select** the desired ending date 3718 parameter by double clicking the mouse on the desired selection. The change of ending date 3718 also causes a change...The user can also position the cursor within hot spot 1804 and left click the mouse to cause control selection window 1806 to appear.

Control **selection** window 1806 provides an entry line for which the **user** can type in the desired length of time for change measurement 3 ) 720 and press "Enter." Note that beside the entry line is the current... ..The user can also position the cursor within hot spot 1804 and left click the mouse to cause control selection window 1806 to appear. Control **selection** window 1806 provides an entry line for which the **user** can enter the desired number of stocks to list 3722 and press "Enter." Note that to the right of the entry line is the current ... ..series type 3 )740 (that is, "Weeks") causes series type 3740 to toggle between "Weeks" and "Days." Double clicking on end date 3742 allows the **user** to enter the desired end date.

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47/5K/51 (Item 51 from file: 349)  
DIALOG(R)File 349: PCT FULLTEXT  
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00455366

**MEDIA WALL FOR DISPLAYING FINANCIAL INFORMATION**  
**MUR D'AFFICHAGE D'INFORMATIONS FINANCIERES**

**Patent Applicant/Patent Assignee:**

- **THE NASDAQ STOCK MARKET INC**

**Inventor(s):**

- **APPLE Thomas**
- **NOBLE Paul**
- **FOOTEN John**
- **KLEIN Andrew**

	Country	Number	Kind	Date
Patent	WO	9845830	A1	19981015
Application	WO	97US5640		19970404
Priorities	WO	97US5640		19970404

A system dynamically **displays graphic** identifier information, such as corporate logos, and **value** information for financial instruments, such as recent **trade** information, on a video wall having **several** monitors arranged to form a larger display. The system has input ports to receive feeds with identifiers and corresponding **values** of financial instruments, a filter to extract the identifiers and corresponding values of the financial instruments, a memory to store the extracted information and a table associating the financial instrument identifiers with graphic symbols, and processors to form a display signal with the **graphic** symbols and **values**.

In particular, a system according to this invention for dynamically **displaying graphic** symbols and **value** information for financial instruments comprises an input port to receive a feed containing identifiers and corresponding values of financial instruments; filter means for extracting from... ..memory; correlating means for finding in a data structure graphic symbols associated with the extracted identifiers; formatting means for forming a display signal with the **graphic** symbols and **values** corresponding to the financial instruments in the feed; and a video wall.

The memory contains the extracted financial instrument identifiers and corresponding values, as well as the data structure associating the financial instrument identifiers with **graphic** symbols. The video wall includes **several** individual monitors arranged into a larger display plus means for receiving the display signals and for displaying on the individual monitors the **graphic** symbols and **values** corresponding to the financial instruments in the feed.

Main issue display area 160 contains real-time and historical **graphics** for individual **securities**. For example, when some special event occurs, such as a new high or a public offering, main issue display area 160 can show financial information about the security.

Area 160 can also show information about **groups** of **securities**, such as quotes of the ten most active **securities**.

Figure 18 contains an issue **trading** activity display 1800 showing real-time **trading** activity for a particular issue or group of issues. Display 1800, which may also be interactive, **graphically displays** the activity of market makers as they quote and **trade** those issues. In addition, display 1800 highlights the market maker inventory orders and public orders and shows the pricing dynamics. Display 1800 can also show... ..for live discussion with underwriters. Figure 19C summarizes listings and delistings of issues in the previous month. Figure 19D displays an IPO flag as a **graphic** introduction for an IPO's first **trade**. Figure 19E shows a new high issue price or volume. Figure 19F highlights unusual price or volume changes when they occur during real-time trading...2140. The number of such processors can vary according to the number of monitors in the video wall. For example, a 20x5 array of monitors **preferably** uses ten to twenty **computer** systems.

The **graphics** adapters also manage several display **characteristics**, such as resolution, color depth, hardware acceleration and video overlay. "Resolution" refers to the number of addressable pixels. For example, a 1280x1024 resolution allows the...arcs, and circles, and for effects, such as panning, zooming, and rotating. Hardware acceleration circuitry can also allow transfer of entire bit blocks.

Another desirable **feature** of the **graphic** adapters is video overlay. Video overlay permits integrating real-time graphics and text with an analog video signal. Most video overlay systems use a specific color as the key, with the overlaid video replacing the key color in an image.

Graphic adapters can also provide **computer**-generated animation, such as BITBLTS (bit block **transfers**), sprite animation, panning, scrolling, and frame animation. Graphic adapters can even provide color animation by changing palettes in response to display changes.

1 A system for dynamically **displaying graphic** symbols and **value** information for financial instruments comprising: an input port to receive a feed containing identifiers and corresponding values of financial instruments; filter means for extracting from the feed the identifiers and corresponding values of the financial instruments; a memory containing the extracted financial instrument identifiers and corresponding **values**, and a data structure associating the financial instrument identifiers with **graphic** symbols; correlating means for finding in the data structure associated ones of the **graphic** symbols for the extracted identifiers; formatting means for forming a display signal with the **graphic** symbols and **values** corresponding to the financial instruments in the feed; and a video wall including a plurality of individual monitors arranged into a larger display, and means for receiving the display signals and for displaying on the individual monitors the **graphic** symbols and **values** corresponding to the financial instruments in the feed.

2 The system of claim 1 wherein the feed is a stock ticker feed and the financial... ..the input processor via the network. - 36

9 The system of claim 7 wherein the control means includes means for causing the display processors to **display** the **graphic** symbols and **values** so

they appear to move across the video wall. IO. The system of claim 6 wherein the feed is a stock ticker feed, and wherein ... finding in the data structure associated ones of the graphics symbols for the extracted identifiers; formatting means for forming a first display signal with the **graphic** symbols and **values** corresponding to the financial instruments in the feed and a second display signal with the financial data; and - 38 a video wall including a plurality of ... a larger display, and means for receiving the first and second display signals and for displaying on the individual monitors the financial data and the **graphic** symbols and **values** corresponding to the financial instruments in the feed.

16 A method for dynamically **displaying graphic** symbols and **value** information for financial instruments on a video wall including a plurality of individual monitors arranged into a larger display, the method comprising the steps of receiving ... associating the financial instrument identifiers with graphic symbols associated ones of the graphic symbols for the extracted identifiers; forming a display signal with the **graphic** symbols and **values** corresponding to the financial instruments in the feed; and displaying on the individual monitors the **graphic** symbols and **values** corresponding to the financial instruments in the feed.

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## II. INVENTOR RESULTS

36/5,K/1 (Item 1 from file: 350)  
 DIALOG(R) File 350: Derwent WPIX  
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0020691375 *Drawing available*

WPI Acc no: 2010-H82364/201048

**Computer implemented method for graphically differentiating user preferred securities from one another on client system for user, involves displaying representation to user on display screen**

Patent Assignee: SCHWAB & CO CHARLES (SCHW-N)

Inventor: **BERBER P R; FERRIS G; HARDING D S; LEWIS B C; MOGONYE G S; MUNOZ R; SWEARINGEN B J**

Patent Family ( 1 patents, 1 countries )

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 7752110	B1	20100706	US 2000569656	A	20000512	201048	B

**Alerting Abstract US B1**

NOVELTY - The method involves providing a continuously updated stream of security data for a set of securities to a server system from a security data source. A user presents

an interface in a client system for analyzing the security data. User preferred securities are identified from the securities based upon user specific criteria e.g. volume, in the server system. A representation of the user preferred securities in a multi-dimensional graph is generated on the client system. The representation is displayed to the user on a display screen.

DESCRIPTION - An INDEPENDENT CLAIM is also included for a system for graphically differentiating user preferred securities from one another for a user.

USE - Computer implemented method for graphically differentiating user preferred securities from one another in a multi-dimensional graph on a client system for a user.

ADVANTAGE - The method allows an investor to create a trading model based on investor goals, and the investor can identify the user preferred securities based upon the investor user specific criteria. The investor can modify the trading model by changing user specific parameters to view the preferred securities in a different graphical configuration. The user can create and graphically display numerous sets of user preferred securities such that the user can utilize multiple trading models in an effective manner.

DESCRIPTION OF DRAWINGS - The drawing shows a flow diagram illustrating a method for graphically differentiating user preferred securities from one another in a multi-dimensional graph.

36/5,K/2 (Item 2 from file: 350)

DIALOG(R)File 350: Derwent WPIX

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0019386744 *Drawing available*

WPI Acc no: 2009-M54295/200955

**Trade executing method for user preferred security during trading common stock, involves sending order from client system to processing entity over network, where processing entity effectuates order**

Patent Assignee: SCHWAB&CO CHARLES (SCHW-N)

Inventor: **BERBER P R; FERRIS G; HARDING D S; LEWIS B C; MOGONYE G S; MUNOZ R; SWEARINGEN B J**

Patent Family ( 1 patents, 1 countries )							
Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20090204548	A1	20090813	US 2009365338	A	20090204	200955	B
			US 2000663151	A	20000915		

**Alerting Abstract** US A1

NOVELTY - The method involves submitting a query from a client system to select a set

of user preferred securities. An N-dimensional graph of the selected user preferred securities is generated on a display of the client system. An order is generated on the client system for a security represented in the N-dimensional graph, where security of the order is selected from the N-dimensional graph on the display of the client system. The order is sent from the client system to a processing entity over an electronic communications network i.e. Internet, where the processing entity effectuates the order. DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. a system comprising a server system
2. a computer-readable medium having a set of instructions to perform a method for executing trades in a user preferred security.

USE - Method for executing trade in a user preferred security displayed in a multi-dimensional graph for trading common stock.

ADVANTAGE - The method allows processing of server system to be optimized by routing connection requests from the client system to a set of servers within the server system to a specific mid-level server that is presently operating with appropriate capacity to handle a new connection, thus avoiding overloading any of the servers. The method allows a user of the client system to have access to information relating to numerous user preferred securities in numerous trading models and can quickly execute a trade in any one of the user preferred securities using the system for executing trades in user preferred securities.

DESCRIPTION OF DRAWINGS - The drawing shows a flow diagram illustrating a method for executing trades in user preferred securities.

### III. ALL SEARCH STRATEGIES & DATABASES

Set	Items	Description
S1	7095	SHARE?(2N) (STOCK? OR EQUITY) OR EQUITYSHAR? OR EQUITYSTOCK?
S2	26071	OR STOCKSHARE? OR EQUITIES OR SECURITIES TRADING OR TRADE? ?
S3	1650691	(EXECUT? OR EFFECTUAT? OR FINALIZ? OR FINALIS? OR ORDER? OR SEND? OR SENT OR TRANSMI?) (3N) (TRADE? OR BUY OR SELL???
OR B-		UYS OR BUYING OR BOUGHT OR SOLD OR ORDER? ? OR SALE? OR
TRANS-		ACTI?)
S4	2479	S1 AND S2:S3
S5	117	TWO(2W)MORE OR LEAST()TWO OR (LEAST OR MINIMUM) (2W)THREE
S6	897	DOUBLE? OR TRIPLE? OR SECOND? OR 2ND OR 3RD OR THIRD?
OR P-		AIR OR BOTH OR THREE?

S7 1435 USER? OR TRADER? OR BUYER? OR SELLER? OR CUSTOMER? OR  
 CLIE- NT? OR SHAREHOLDER? OR SHARE()HOLDER? OR (ACCOUNT OR  
 PORTFOLI- O)() (HOLDER? OR OWNER?) OR PATRON? ? OR CONSUMER?  
 S8 746 PARTICIPANT? OR INVESTOR? OR MEMBER? OR PURCHASER? OR  
 ENDU- SER?  
 S9 1447 SELECT? OR CHOSE? OR CHOOS? OR CHOIC? OR PREFER? OR  
 CUSTOM- IS? OR CUSTOMIZ? OR SPECIFIC OR SPECIFY? OR SPECIFIE? OR  
 SPEC- IFICALLY OR APPORTION? OR TRANSFER?  
 S10 1181 ALLOCAT? OR ELECT? OR ASSIGN??? OR EFFECTUAT? OR  
 ACTUAT? OR DESIGNAT? OR INDICATE? OR INDICATI? OR STIPULAT? OR OPT  
 OR O- PTS OR OPTED OR OPTING OR ALLOT?  
 S11 1128 PLURAL? OR MULTI OR MULTIPLE? OR MULTIPLICIT? OR  
 MULTITUDE? OR SEVERAL? OR MANY OR NUMEROUS OR ARRAY? OR COLLECTION?  
 S12 516 GROUP? OR POOL??? OR COLLECTION? OR COLLECTIVE? OR  
 AGGREGA- T?  
 S13 92 (GRAPH? OR MATRIX?) (2N) (DEPICT? OR GENERAT? OR DISPLAY?  
 OR REPRESENT? OR SHOWN OR DIFFERENTIAT? OR DISTINGUISH? OR  
 DISTI- NCT OR CHART? OR CONTRAST?)  
 S14 77 GUI OR GRAPHIC?()USER?()INTERFACE? OR GUI  
 S15 178 GRAPH OR GRAPHS OR GRAPHED OR GRAPHIC?  
 S16 16 3D OR 4D OR MULTIDIMENSION? OR (3 OR 4 OR THREE OR FOUR  
 OR TRI OR TETRA)() (D OR DIMENSION?) OR TRIDIMENSION? OR  
 TETRADIM- ENSION?  
 S17 1102 PARAMET? OR VALUE? OR TRAIT? OR ATTRIBUT? OR QUALITIE?  
 OR - CHARACTERISTIC? OR CRITERI? OR PROPERTIE?  
 S18 395 FEATURE? OR PECULIARIT? OR SPECIFICATION? OR SPECS OR  
 PART- ICULARS OR DETAILS OR PROFILE? OR REQUIREMENT? OR  
 PREREQUISIT?  
 S19 213 CODE()SEGMENT? OR COMPUTER?(3N) (INSTRUCTION? OR  
 READ?()MED- IUM? OR SEQUENC? OR SEQUENT?)  
 S20 1297 DATA()PROCESS? OR SOFTWARE? OR COMPUTER?  
 S21 632 DATAPROCESS? OR MICRO()PROCESS? OR MICROPROCESS? OR  
 MINICO- MPUTER? OR SERVER? OR CPU OR CPUS OR MULTIPROCESS? OR (NET  
 OR NETWORK)() (PC OR PCS)  
 S22 88 MAINFRAME? OR CENTRALPROCESSOR? OR CENTRAL()PROCESS? OR  
 MI- CROCONTROL? OR MICROCOMPUTER? OR COMPUTING() (DEVICE? OR  
 APPAR- ATUS?)

S23 33 PROGRAM?() LANGUAGE? OR CONTROL() LOGIC? OR SOFTWARE? OR  
 AP- P? ? OR MACRO? ? OR API OR APIS OR PROGRAM() INTERFACE?  
 S24 334 SUBROUTIN? OR SUBPROGRAM? OR COMPUTER?(2N) (CODE? OR  
 UTILIT? OR SCRIPT? OR PROGRAM? OR ROUTINE? OR SUBROUTIN? OR  
 LANGUAGE?)  
 S25 66 (CPU? ? OR PROCESSOR?) (2N) (PROGRAM? OR APPLICATION? OR  
 ROU- TIME? OR SUBROUTINE? OR CODE? OR INSTRUCTION? OR ALGORITHM?  
 OR LANGUAGE?)  
 S26 129 (CPU? ? OR PROCESSOR? OR COMPUTER?) (2N) (PROCEDUR? OR  
 PROTO- COL? OR COMMUNICATION? OR COMMAND? OR STEP? ?)  
 S27 9 SUBSOFTWARE? OR SUBAPPLICATION? OR (API OR  
 APIS) (5N) (PROGR- AM? OR INTERFAC?) OR GROUPWARE? OR MIDDLEWARE?  
 S28 8 APPLICATION?() PROGRAM?() INTERFACE? OR (ABI OR  
 ABIS) (5N) (BI- NARY OR INTERFACE?) OR APPLICATION?() BINARY() INTERFACE?  
 S29 43 EXECUT?() (FILE? OR CODE? OR BYTE? OR SEQUENC? OR  
 EXPRESSIO- N? OR SCRIPT?) OR OPERAT?() SYSTEM? OR PROGRAM() LANGUAGE?  
 S30 406 (COMPUTER? OR CPU OR PROCESSOR?) (2N) (CODE? OR UTILIT?  
 OR S- CRIPT? OR ALGORITHM? OR PROGRAM? OR ROUTINE? OR SUBROUTIN?  
 OR APPLICATION? OR PROGRAM? OR MACRO OR APP OR APPS OR  
 PARAMETER? OR PROTOCOL?)  
 S31 3 AU=(SWEARINGEN B? OR SWEARINGEN BJ OR HARDING D? OR  
 HARDING DS OR LEWIS B? OR LEWIS BC OR MUNOZ R? OR MUNOZ RJR OR  
 MOGON- YE G? OR MOGONYE GS OR FERRIS G? OR BERBER P? OR BERBER  
 PR)  
 S32 3 AU=(SWEARINGEN, B? OR SWEARINGEN, BJ OR HARDING, D? OR  
 HAR- DING, DS OR LEWIS, B? OR LEWIS, BC OR MUNOZ, R? OR MUNOZ,  
 RJR OR MOGONYE, G? OR MOGONYE, GS OR FERRIS, G? OR BERBER, P?  
 OR - BERBER, PR)  
 S33 2101 IC=(G06F? OR G06Q?)  
 S34 3 S31:S32  
 S35 3 IDPAT (sorted in duplicate/non-duplicate order)  
 S36 3 IDPAT (primary/non-duplicate records only)  
 S37 2476 S4 NOT S34  
 S38 127 S37 AND S7:S8 AND (S9:S10 OR S17:S18) AND (S5:S6 OR  
 S11:S1- 2) AND S13:S16 AND (S19:S30 OR S33)  
 S39 37 S38 AND AY=1950:2000  
 S40 20 S38 NOT AY=2001:2011  
 S41 37 S39:S40  
 S42 37 IDPAT (sorted in duplicate/non-duplicate order)  
 S43 37 IDPAT (primary/non-duplicate records only)

## ? show files

File 347:JAPIO Dec 1976-2010/Oct(Updated 110127)

(c) 2011 JPO & JAPIO

File 350:Derwent WPIX 1963-2011/UD=201107

(c) 2011 Thomson Reuters

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Set	Items	Description
S1	5437	SHARE?(2N)(STOCK? OR EQUITY) OR EQUITYSHAR? OR EQUITYSTOCK?
		OR STOCKSHARE? OR EQUITIES OR SECURITIES
S2	171018	TRADING OR TRADE? ?
S3	1800150	(EXECUT? OR EFFECTUAT? OR FINALIZ? OR FINALIS? OR ORDER? OR
		SEND? OR SENT OR TRANSMI?)(3N)(TRADE? OR BUY OR SELL???
OR B-		UYS OR BUYING OR BOUGHT OR SOLD OR ORDER? ? OR SALE? OR
TRANS-		ACTI?)
S4	1830	S1(10N)S2:S3
S5	815	TWO(2W)MORE OR LEAST()TWO OR (LEAST OR MINIMUM)(2W)THREE
S6	1740	DOUBLE? OR TRIPLE? OR SECOND? OR 2ND OR 3RD OR THIRD?
OR P-		AIR OR BOTH OR THREE?
S7	1700	USER? OR TRADER? OR BUYER? OR SELLER? OR CUSTOMER? OR CLIE-
		NT? OR SHAREHOLDER? OR SHARE()HOLDER? OR (ACCOUNT OR
PORTFOLI-		O)() (HOLDER? OR OWNER?) OR PATRON? ? OR CONSUMER?
S8	1392	PARTICIPANT? OR INVESTOR? OR MEMBER? OR PURCHASER? OR
ENDU-		SER?
S9	1765	SELECT? OR CHOSE? OR CHOOS? OR CHOIC? OR PREFER? OR
CUSTOM-		IS? OR CUSTOMIZ? OR SPECIFIC OR SPECIFY? OR SPECIFIE? OR
SPEC-		IFICALLY OR APPORTION? OR TRANSFER?
S10	1765	ALLOCAT? OR ELECT? OR ASSIGN??? OR EFFECTUAT? OR
ACTUAT? OR		DESIGNAT? OR INDICATE? OR INDICATI? OR STIPULAT? OR OPT
OR O-		PTS OR OPTED OR OPTING OR ALLOT?
S11	1740	PLURAL? OR MULTI OR MULTIPLE? OR MULTIPLICIT? OR
MULTITUDE?		OR SEVERAL? OR MANY OR NUMEROUS OR ARRAY? OR COLLECTION?
S12	1523	GROUP? OR POOL??? OR COLLECTION? OR COLLECTIVE? OR
AGGREGA-		T?
S13	540	(GRAPH? OR MATRIX?)(2N)(DEPICT? OR GENERAT? OR DISPLAY?
OR		

REPRESENT? OR SHOWN OR DIFFERENTIAT? OR DISTINGUISH? OR  
 DISTI-  
 NCT OR CHART? OR CONTRAST?)  
 S14 538 GUI OR GRAPHIC?()USER?()INTERFACE? OR GUI  
 S15 925 GRAPH OR GRAPHS OR GRAPED OR GRAPHIC?  
 S16 265 3D OR 4D OR MULTIDIMENSION? OR (3 OR 4 OR THREE OR FOUR  
 OR  
 TRI OR TETRA)() (D OR DIMENSION?) OR TRIDIMENSION? OR  
 TETRADIM-  
 ENSION?  
 S17 1707 PARAMET? OR VALUE? OR TRAIT? OR ATTRIBUT? OR QUALITIE?  
 OR -  
 CHARACTERISTIC? OR CRITERI? OR PROPERTIE?  
 S18 1675 FEATURE? OR PECULIARIT? OR SPECIFICATION? OR SPECS OR  
 PART-  
 ICULARS OR DETAILS OR PROFILE? OR REQUIREMENT? OR  
 PREREQUISIT?  
 S19 689 CODE()SEGMENT? OR COMPUTER?(3N) (INSTRUCTION? OR  
 READ?()MED-  
 IUM? OR SEQUENC? OR SEQUENT?)  
 S20 1706 DATA()PROCESS? OR SOFTWARE? OR COMPUTER?  
 S21 1337 DATAPROCESS? OR MICRO()PROCESS? OR MICROPROCESS? OR  
 MINICO-  
 MPUTER? OR SERVER? OR CPU OR CPUS OR MULTIIPROCESS? OR (NET  
 OR  
 NETWORK)() (PC OR PCS)  
 S22 681 MAINFRAME? OR CENTRALPROCESSOR? OR CENTRAL()PROCESS? OR  
 MI-  
 CROCONTROL? OR MICROCOMPUTER? OR COMPUTING() (DEVICE? OR  
 APPAR-  
 ATUS?)  
 S23 622 PROGRAM?()LANGUAGE? OR CONTROL()LOGIC? OR SOFT()WARE? OR  
 AP-  
 P? ? OR MACRO? ? OR API OR APIS OR PROGRAM()INTERFACE?  
 S24 962 SUBROUTIN? OR SUBPROGRAM? OR COMPUTER?(2N) (CODE? OR  
 UTILIT?  
 OR SCRIPT? OR PROGRAM? OR ROUTINE? OR SUBROUTIN? OR  
 LANGUAGE?)  
 S25 445 (CPU? ? OR PROCESSOR?) (2N) (PROGRAM? OR APPLICATION? OR  
 ROU-  
 TINE? OR SUBROUTINE? OR CODE? OR INSTRUCTION? OR ALGORITHM?  
 OR  
 LANGUAGE?)  
 S26 681 (CPU? ? OR PROCESSOR? OR COMPUTER?) (2N) (PROCEDUR? OR  
 PROTO-  
 COL? OR COMMUNICATION? OR COMMAND? OR STEP? ?)  
 S27 264 SUBSOFTWARE? OR SUBAPPLICATION? OR (API OR  
 APIS) (5N) (PROGR-  
 AM? OR INTERFAC?) OR GROUPWARE? OR MIDDLEWARE?  
 S28 215 APPLICATION?()PROGRAM?()INTERFACE? OR (ABI OR  
 ABIS) (5N) (BI-  
 NARY OR INTERFACE?) OR APPLICATION?()BINARY()INTERFACE?  
 S29 649 EXECUT?() (FILE? OR CODE? OR BYTE? OR SEQUENC? OR  
 EXPRESSIO-  
 N? OR SCRIPT?) OR OPERAT?()SYSTEM? OR PROGRAM()LANGUAGE?  
 S30 1098 (COMPUTER? OR CPU OR PROCESSOR?) (2N) (CODE? OR UTILIT?  
 OR S-

OR  
 APPLICATION? OR PROGRAM? OR MACRO OR APP OR APPS OR  
 PARAMETER?  
 OR PROTOCOL?)  
 S31 3 AU=(SWEARINGEN B? OR SWEARINGEN BJ OR HARDING D? OR  
 HARDING DS OR LEWIS B? OR LEWIS BC OR MUNOZ R? OR MUNOZ RJR OR  
 MOGON- YE G? OR MOGONYE GS OR FERRIS G? OR BERBER P? OR BERBER  
 PR)  
 S32 0 AU=(SWEARINGEN, B? OR SWEARINGEN, BJ OR HARDING, D? OR  
 HAR- DING, DS OR LEWIS, B? OR LEWIS, BC OR MUNOZ, R? OR MUNOZ,  
 RJR OR MOGONYE, G? OR MOGONYE, GS OR FERRIS, G? OR BERBER, P?  
 OR -  
 BERBER, PR)  
 S33 1594 IC=(G06F? OR G06Q?)  
 S34 3 S31:S32  
 S35 3 IDPAT (sorted in duplicate/non-duplicate order)  
 S36 3 IDPAT (primary/non-duplicate records only)  
 S37 1827 S4 NOT S34  
 S38 308 S37 AND S7:S8(10N)S9:S10 AND (S5:S6 OR  
 S11:S12)(10N)(S1:S3  
 OR S13:S16) AND S13:S15(10N)S16:S18 AND S9:S10(10N)S19:S30  
 S39 287 S38 AND S33  
 S40 308 S38:S39  
 S41 185 S40 AND S13:S16(10N)S1:S3  
 S42 161 S41 AND (S5:S6 OR S11:S12)(10N)S17:S18(10N)S1:S3  
 S43 53 S42 AND AY=1950:2000  
 S44 34 S42 NOT AY=2001:2011  
 S45 53 S43:S44  
 S46 53 IDPAT (sorted in duplicate/non-duplicate order)  
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Set	Items	Description
S1	303230	SHARE?(2N)(STOCK? OR EQUITY) OR EQUITYSHAR? OR EQUITYSTOCK?
		OR STOCKSHARE? OR EQUITIES OR SECURITIES
S2	1001752	TRADING OR TRADE? ?
S3	2303150	(EXECUT? OR EFFECTUAT? OR FINALIZ? OR FINALIS? OR ORDER? OR

SEND? OR SENT OR TRANSMI? (3N) (TRADE? OR BUY OR SELL??  
 OR B-  
 UYS OR BUYING OR BOUGHT OR SOLD OR ORDER? ? OR SALE? OR  
 TRANS-  
 ACTI?)  
 S4 91228 S1 AND S2:S3  
 S5 3197 TWO(2W)MORE OR LEAST()TWO OR (LEAST OR  
 MINIMUM) (2W)THREE  
 S6 35214 DOUBLE? OR TRIPLE? OR SECOND? OR 2ND OR 3RD OR THIRD?  
 OR P-  
 AIR OR BOTH OR THREE?  
 S7 36974 USER? OR TRADER? OR BUYER? OR SELLER? OR CUSTOMER? OR  
 CLIE-  
 NT? OR SHAREHOLDER? OR SHARE()HOLDER? OR (ACCOUNT OR  
 PORTFOLI-  
 O) (HOLDER? OR OWNER?) OR PATRON? ? OR CONSUMER?  
 S8 35327 PARTICIPANT? OR INVESTOR? OR MEMBER? OR PURCHASER? OR  
 ENDU-  
 SER?  
 S9 25912 SELECT? OR CHOSE? OR CHOOS? OR CHOIC? OR PREFER? OR  
 CUSTOM-  
 IS? OR CUSTOMIZ? OR SPECIFIC OR SPECIFY? OR SPECIFIE? OR  
 SPEC-  
 IFICALLY OR APPORTION? OR TRANSFER?  
 S10 26141 ALLOCAT? OR ELECT? OR ASSIGN??? OR EFFECTUAT? OR  
 ACTUAT? OR  
 DESIGNAT? OR INDICATE? OR INDICATI? OR STIPULAT? OR OPT  
 OR O-  
 PTS OR OPTED OR OPTING OR ALLOT?  
 S11 28553 PLURAL? OR MULTI OR MULTIPLE? OR MULTIPLICIT? OR  
 MULTITUDE?  
 OR SEVERAL? OR MANY OR NUMEROUS OR ARRAY? OR COLLECTION?  
 S12 25810 GROUP? OR POOL??? OR COLLECTION? OR COLLECTIVE? OR  
 AGGREGA-  
 T?  
 S13 375 (GRAPH? OR MATRIX?) (2N) (DEPICT? OR GENERAT? OR DISPLAY?  
 OR  
 REPRESENT? OR SHOWN OR DIFFERENTIAT? OR DISTINGUISH? OR  
 DISTI-  
 NCT OR CHART? OR CONTRAST?)  
 S14 40 GUI OR GRAPHIC? (USER? (INTERFACE? OR GUI?  
 S15 2969 GRAPH OR GRAPHS OR GRAPHED OR GRAPHIC?  
 S16 1784 3D OR 4D OR MULTIDIMENSION? OR (3 OR 4 OR THREE OR FOUR  
 OR  
 TRI OR TETRA) (D OR DIMENSION?) OR TRIDIMENSION? OR  
 TETRADIM-  
 ENSION?  
 S17 25623 PARAMET? OR VALUE? OR TRAIT? OR ATTRIBUT? OR QUALITIE?  
 OR -  
 CHARACTERISTIC? OR CRITERI? OR PROPERTIE?  
 S18 19652 FEATURE? OR PECULIARIT? OR SPECIFICATION? OR SPECS OR  
 PART-  
 ICULARS OR DETAILS OR PROFILE? OR REQUIREMENT? OR  
 PREREQUISIT?  
 S19 23 CODE()SEGMENT? OR COMPUTER? (3N) (INSTRUCTION? OR  
 READ? (MED-  
 IUM? OR SEQUENC? OR SEQUENT?)

S20 10626 DATA()PROCESS? OR SOFTWARE? OR COMPUTER?  
 S21 661 DATAPROCESS? OR MICRO()PROCESS? OR MICROPROCESS? OR  
 MINICO- MPU? OR SERVER? OR CPU OR CPUS OR MULTIPROCESS? OR (NET  
 OR NETWORK)() (PC OR PCS)  
 S22 462 MAINFRAME? OR CENTRALPROCESSOR? OR CENTRAL()PROCESS? OR  
 MI- CROCONTROL? OR MICROCOMPUTER? OR COMPUTING() (DEVICE? OR  
 APPAR- ATUS?)  
 S23 1194 PROGRAM?()LANGUAG? OR CONTROL()LOGIC? OR SOFT()WARE? OR  
 AP- P? ? OR MACRO? ? OR API OR APIS OR PROGRAM()INTERFACE?  
 S24 534 SUBROUTIN? OR SUBPROGRAM? OR COMPUTER?(2N) (CODE? OR  
 UTILIT? OR SCRIPT? OR PROGRAM? OR ROUTINE? OR SUBROUTIN? OR  
 LANGUAG?)  
 S25 12 (CPU? ? OR PROCESSOR?) (2N) (PROGRAM? OR APPLICATION? OR  
 ROU- TIME? OR SUBROUTINE? OR CODE? OR INSTRUCTION? OR ALGORITHM?  
 OR LANGUAG?)  
 S26 344 (CPU? ? OR PROCESSOR? OR COMPUTER?) (2N) (PROCEDUR? OR  
 PROTO- COL? OR COMMUNICATION? OR COMMAND? OR STEP? ?)  
 S27 51 SUBSOFTWARE? OR SUBAPPLICATION? OR (API OR  
 APIS) (5N) (PROGR- AM? OR INTERFAC?) OR GROUPWARE? OR MIDDLEWARE?  
 S28 11 APPLICATION?()PROGRAM?()INTERFACE? OR (ABI OR  
 ABIS) (5N) (BI- NARY OR INTERFACE?) OR APPLICATION?()BINARY()INTERFACE?  
 S29 339 EXECUT?() (FILE? OR CODE? OR BYTE? OR SEQUENC? OR  
 EXPRESSIO- N? OR SCRIPT?) OR OPERAT?()SYSTEM? OR PROGRAM()LANGUAG?  
 S30 606 (COMPUTER? OR CPU OR PROCESSOR?) (2N) (CODE? OR UTILIT?  
 OR S- CRIPT? OR ALGORITHM? OR PROGRAM? OR ROUTINE? OR SUBROUTIN?  
 OR APPLICATION? OR PROGRAM? OR MACRO OR APP OR APPS OR  
 PARAMETER? OR PROTOCOL?)  
 S31 0 AU=(SWEARINGEN B? OR SWEARINGEN BJ OR HARDING D? OR  
 HARDING DS OR LEWIS B? OR LEWIS BC OR MUNOZ R? OR MUNOZ RJR OR  
 MOGON- YE G? OR MOGONYE GS OR FERRIS G? OR BERBER P? OR BERBER  
 PR)  
 S32 3 AU=(SWEARINGEN, B? OR SWEARINGEN, BJ OR HARDING, D? OR  
 HAR- DING, DS OR LEWIS, B? OR LEWIS, BC OR MUNOZ, R? OR MUNOZ,  
 RJR OR MOGONYE, G? OR MOGONYE, GS OR FERRIS, G? OR BERBER, P?  
 OR - BERBER, PR)  
 S33 547 IC=(G06F? OR G06Q?)  
 S34 3 S31:S32

S35 3 RD (unique items)  
 S36 91225 S4 NOT S34  
 S37 1089 S36 AND (S5:S6 OR S11:S12) AND S7:S8 AND (S9:S10 OR  
 S17:S1-  
 8) AND S13:S16 AND S19:S30  
 S38 4 S37 AND S33  
 S39 3 RD (unique items)  
 S40 1085 S37 NOT S38  
 S41 13 S40 AND S1(7N)S2:S3 AND S7:S8(7N)S9:S10(7N)S17:S18 AND  
 S13-  
 :S16(7N)(S1:S3 OR S17:S18)  
 S42 13 RD (unique items)  
 S43 1072 S40 NOT S41  
 S44 129 S43 AND S1(7N)S2:S3 AND S7:S8(7N)(S9:S10 OR S17:S18)  
 AND (-  
 S9:S10 OR S17:S18)(7N)(S1:S3 OR S13:S16)  
 S45 89 S44 AND PY=1950:2000  
 S46 89 S44 NOT PY=2001:2011  
 S47 89 S45:S46  
 S48 88 RD (unique items)

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Set	Items	Description
S1	17420276	SHARE?(2N)(STOCK? OR EQUITY) OR EQUITYSHAR? OR EQUITYSTOCK?
		OR STOCKSHARE? OR EQUITIES OR SECURITIES
S2	19845797	TRADING OR TRADE? ?
S3	21444022	(EXECUT? OR EFFECTUAT? OR FINALIZ? OR FINALIS? OR ORDER? OR
		SEND? OR SENT OR TRANSMI?) (3N)(TRADE? OR BUY OR SELL???
OR B-		

UYS OR BUYING OR BOUGHT OR SOLD OR ORDER? ? OR SALE? OR  
 TRANS- ACTI?)  
 S4 978201 S1(7N)S2:S3  
 S5 680604 USER? OR TRADER? OR BUYER? OR SELLER? OR CUSTOMER? OR  
 CLIE- NT? OR SHAREHOLDER? OR SHARE()HOLDER? OR (ACCOUNT OR  
 PORTFOLI- O) (HOLDER? OR OWNER?) OR PATRON? ? OR CONSUMER?  
 S6 589912 PARTICIPANT? OR INVESTOR? OR MEMBER? OR PURCHASER? OR  
 ENDU- SER?  
 S7 581613 S4 AND S1:S3(20N)S5:S6  
 S8 264744 SELECT? OR CHOSE? OR CHOOOS? OR CHOIC? OR PREFER? OR  
 CUSTOM- IS? OR CUSTOMIZ? OR SPECIFIC OR SPECIFY? OR SPECIFIE? OR  
 SPEC- IFICALLY OR APPORTION? OR TRANSFER?  
 S9 295126 ALLOCAT? OR ELECT? OR ASSIGN??? OR EFFECTUAT? OR  
 ACTUAT? OR DESIGNAT? OR INDICATE? OR INDICATI? OR STIPULAT? OR OPT  
 OR O- PTS OR OPTED OR OPTING OR ALLOT?  
 S10 2102 (GRAPH? OR MATRIX?) (2N) (DEPICT? OR GENERAT? OR DISPLAY?  
 OR REPRESENT? OR SHOWN OR DIFFERENTIAT? OR DISTINGUISH? OR  
 DISTI- NCT OR CHART? OR CONTRAST?)  
 S11 1071 GUI OR GRAPHIC?()USER?()INTERFACE? OR GUI5  
 S12 41580 GRAPH OR GRAPHS OR GRAPHED OR GRAPHIC?  
 S13 8267 3D OR 4D OR MULTIDIMENSION? OR (3 OR 4 OR THREE OR FOUR  
 OR TRI OR TETRA) (D OR DIMENSION?) OR TRIDIMENSION? OR  
 TETRADIM- ENSION?  
 S14 326366 PARAMET? OR VALUE? OR TRAIT? OR ATTRIBUT? OR QUALITIE?  
 OR - CHARACTERISTIC? OR CRITERI? OR PROPERTIE?  
 S15 226453 FEATURE? OR PECULIARIT? OR SPECIFICATION? OR SPECS OR  
 PART- ICULARS OR DETAILS OR PROFILE? OR REQUIREMENT? OR  
 PREREQUISIT?  
 S16 89 S7 AND S5:S6(7N)S8:S9(10N)S1 AND  
 S10:S13(10N)S14:S15(10N)S-  
 1:S3  
 S17 48 S16 AND PY=1950:2000  
 S18 48 S16 NOT PY=2001:2011  
 S19 48 S17:S18  
 S20 36 RD (unique items)  
 S21 0 AU=(SWEARINGEN B? OR SWEARINGEN BJ OR HARDING D? OR  
 HARDING DS OR LEWIS B? OR LEWIS BC OR MUNOZ R? OR MUNOZ RJR OR  
 MOGON- YE G? OR MOGONYE GS OR FERRIS G? OR BERBER P? OR BERBER  
 PR)  
 S22 1 AU=(SWEARINGEN, B? OR SWEARINGEN, BJ OR HARDING, D? OR  
 HAR-

DING, DS OR LEWIS, B? OR LEWIS, BC OR MUNOZ, R? OR MUNOZ,  
RJR  
OR MOGONYE, G? OR MOGONYE, GS OR FERRIS, G? OR BERBER, P?  
OR -  
BERBER, PR)

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